

RESULTS OF 2009 ON-FARM COTTON VARIETY TRIAL IN FRANKLIN COUNTY , ALABAMA

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An on-farm non-replicated (strip) trial was conducted in a field near Russellville, AL to compare the yield and value per acre of 14 transgenic cotton varieties. The field received 2 tons of poultry litter per acre the day before planting. Preplant burndown herbicides used were Roundup and dicamba. Seed were planted no-till on May 14 into a very moist soil. A 40 inch row spacing was used and each variety was planted in 8 rows. Early in the growing season dry weather stunted plants severely but rains in July and August stimulated plant growth and the trial had surprisingly satisfactory yields. Once plants began squaring the trial was inspected weekly to assess insect pest populations. No insect pest exceeded treatment thresholds and no insecticides were applied during the study. Lay-by weed control was achieved using Roundup under a hood sprayer. September and the first half of October were abnormally cool and wet and this delayed crop maturation. The field was defoliated with Prep two weeks prior to harvest. Plots were harvested November 7 and 8 and cotton was weighed using a cotton boll buggy with digital scales. The total number of row feet planted with each variety was measured with a rollo-tape and total acres harvested was determined for each variety. Total acres harvested ranged from 0.833 acres to 1.064 acres. A 3 lb sample of seed cotton was collected for each variety and a 350 gram subsample was ginned at the Tennessee Valley Research and Extension Center at Belle Mina using a 20 saw, table-top-gin without cleaners. The per cent lint was determined and the ginned samples were sent to the classing office in Birmingham to assess lint quality parameters. These quality parameters were then used to calculate the loan value for each variety according to the 2009 Upland Cotton Loan Schedule and the 2009 Upland Cotton Premium/Discount Table. Total value per acre was calculated by multiplying the loan value by the pounds of lint produced per acre. Results of the trial are presented in Tables 1 and 2. Varieties are listed in the tables in the same pattern as they were planted across the field. Varieties which had a value greater than \$450 per acre were DP 0912, DP 0920, DP 0924, DP 174 RF, PHY 375 WRF, PHY 485 WRF, and ST 5458 B2RF. The variety DP 141 B2RF had the highest seed cotton yield per acre but the low mike and low lint turn out obtained by the ginning procedure used reduced the total value per acre significantly.

Table 1. Yields obtained in Franklin County, AL on-farm cotton variety trial, 2009.

Variety	lbs seed cotton	rows ft harvested	Acres harvested	lbs seed cotton/Acre	% lint	lbs lint/Acre
DP0912B2RF	1942	13,920	1.064	1825	45.66	833
DP0920B2RF	1926	13,920	1.064	1810	45.06	816
DP0924B2RF	1938	13,920	1.064	1821	43.94	800
DP121 RF	1708	13,760	1.050	1627	46.20	752
DP174 RF	1668	13,720	1.050	1589	48.49	771
DP141 B2RF	2018	13,680	1.046	1929	40.26	777
DP161 B2RF	1802	13,204	1.010	1784	40.94	730
ST4554 B2RF	1712	13,286	1.016	1685	45.86	773
PHY375 WRF	1848	12,758	0.975	1895	44.49	843
DP0935B2RF	1508	12,451	0.951	1586	42.17	669
DP164 B2RF	1566	13,096	1.000	1566	40.89	640
PHY485 WRF	1950	13,536	1.035	1884	43.46	819
ST5458 B2RF	1568	10,892	0.833	1882	44.86	844
DP0949B2rf	1424	10,892	0.833	1710	44.97	769

Table 2. Quality parameters, loan value and value per acre for different cotton varieties in Franklin County, AL on-farm trial, 2009.

Variety	Mike	Length	Strength	Uniformity	HVI Color	Loan Value ¢/lb	Value/Acre \$
DP0912B2RF	4.2	35	29.3	84.4	31	55.75	464
DP0920B2RF	3.7	36	27.2	83.0	31	56.40	460
DP0924B2RF	3.9	36	27.9	83.8	31	56.50	452
DP121 RF	3.9	36	29.2	83.3	31	56.40	424
DP174 RF	3.9	39	27.6	83.6	31	56.60	456
DP141 B2RF	3.0	39	28.7	82.6	31	53.10	413
DP161 B2RF	3.4	38	28.9	82.2	31	54.55	398
ST4554 B2RF	3.3	36	28.3	83.5	31	54.75	423
PHY375 WRF	3.3	36	29.1	83.6	31	54.75	461
DP0935B2RF	3.2	36	27.5	84.0	31	53.10	355
DP164 B2RF	3.4	37	28.6	83.2	31	54.75	350
PHY485 WRF	3.9	37	30.1	84.2	31	56.85	466
ST5458 B2RF	4.0	36	26.7	79.3	31	55.45	468
DP0949B2RF	3.4	36	27.8	84.0	31	54.75	421